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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2005-22526; Directorate Identifier 2005-NM-008-AD; Amendment 39-14499; AD 2006-05-02]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 747-200F, 747-200C, 747-400, 747-400D, and 747-400F Series Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for all Boeing Model 747-200F, 747-200C, 747-400, 747-400D, and 747-400F series airplanes. This AD requires repetitive inspections for cracking of certain fuselage internal structure, and repair if necessary. This AD results from fatigue tests and analysis that identified areas of the fuselage where fatigue cracks can occur. We are issuing this AD to prevent loss of the structural integrity of the fuselage, which could result in rapid depressurization of the airplane.

DATES: This AD becomes effective April 6, 2006.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of April 6, 2006.

ADDRESSES: You may examine the AD docket on the Internet at *http://dms.dot.gov* or in person at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street SW., Nassif Building, Room PL-401, Washington, DC.

Contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207, for service information identified in this AD.

FOR FURTHER INFORMATION CONTACT: Ivan Li, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 917-6437; fax (425) 917-6590.

SUPPLEMENTARY INFORMATION:

Examining the Docket

You may examine the airworthiness directive (AD) docket on the Internet at *http://dms.dot.gov* or in person at the Docket Management Facility office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Management Facility office (telephone (800) 647-5227) is located on the plaza level of the Nassif Building at the street address stated in the ADDRESSES section.

Discussion

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to all Boeing Model 747-200F, 747-200C, 747-400, 747-400D, and 747-400F series airplanes. That NPRM was published in the Federal Register on September 29, 2005 (70 FR 56860). That NPRM proposed to require repetitive inspections for cracking of certain fuselage internal structure, and repair if necessary.

Comments

We provided the public the opportunity to participate in the development of this AD. We have considered the comments received.

Support for the Proposed AD

One commenter concurs with the contents of the proposed AD and has no additional comments.

Request To Revise Compliance Time

One commenter, on behalf of an airline, requests that we adjust the proposed grace period for the initial inspection to "greater than 1,000 cycles, but less than or equal to the required SSID [Supplemental Structural Inspection Document] program repetitive inspection interval" if no cracks were found during the SSID inspection. He provides no further justification for the request.

We disagree with the request to revise the grace period. The SSID program is an exploratory program intended for revealing cracks in structure with no prior history of fatigue cracking. The SSID program was substantiated by analysis, whereas this AD was prompted by cracks found during full-scale fatigue tests, and substantiated by updated analysis by Boeing. The inspections and compliance times appropriate for this AD are shorter than those of the SSID program. Because fatigue cracking has been found at the affected structure on the Boeing fatigue test airplanes, we have concluded that the SSID program alone will not adequately prevent undetected cracking of the structure, and that the more stringent inspections and repetitive intervals required by this AD are necessary. We have not changed the final rule regarding this issue.

Request To Revise Cost Estimate

The same commenter requests that we revise the cost estimate in the proposed AD to reflect the work-hour estimate specified in Boeing Alert Service Bulletin 747-53A2500, dated December 21, 2004 (the source of service information cited in the proposed AD). He states that 1,984 work hours would be an appropriate estimate as this figure includes time for access and close. Because these work hours are not normally provided during scheduled heavy maintenance checks, however, he considers the 260-work-hour estimate, as provided in the proposed AD, misleading.

We recognize that the work hours required for an individual operator to complete all actions associated with an AD may exceed the work hours specified in the proposed cost estimate. However, an AD cannot account for fleetwide variability. Further, the costs of compliance discussed in a proposed AD represent only the time necessary to perform the specific actions actually proposed. The cost estimate typically does not include incidental costs such as access and close. Therefore, we don't consider it appropriate to attribute those associated costs to the AD. We have not changed the final rule regarding this issue.

Explanation of Change Made to This AD

We have simplified paragraph (g) of this AD by referring to the "Alternative Methods of Compliance (AMOCs)" paragraph of this AD for repair methods.

Conclusion

We have carefully reviewed the available data, including the comments received, and determined that air safety and the public interest require adopting the AD with the change described previously. We have determined that this change will neither increase the economic burden on any operator nor increase the scope of the AD.

Costs of Compliance

There are about 706 airplanes of the affected design in the worldwide fleet. The following table provides the estimated costs for U.S. operators to comply with this AD.

ESTIMATED COSTS [Per inspection cycle]

Action	Work hours	Average labor rate per hour	Parts	Cost per airplane	Number of U.S.-registered airplanes	Fleet cost
Inspections	260	$65	None required	$16,900	107	$1,808,300

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

(1) Is not a "significant regulatory action" under Executive Order 12866;

(2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and

(3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket. See the ADDRESSES section for a location to examine the regulatory evaluation.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39–AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The Federal Aviation Administration (FAA) amends § 39.13 by adding the following new airworthiness directive (AD):

AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

www.faa.gov/aircraft/safety/alerts/

2006-05-02 Boeing: Amendment 39-14499. Docket No. FAA-2005-22526; Directorate Identifier 2005-NM-008-AD.

Effective Date

(a) This AD becomes effective April 6, 2006.

Affected ADs

(b) Inspections specified in this AD may be considered an alternative method of compliance (AMOC) for certain requirements of AD 2004-07-22, amendment 39-13566, as specified in paragraph (i)(2) of this AD.

Applicability

(c) This AD applies to all Boeing Model 747-200F, 747-200C, 747-400, 747-400D, and 747-400F series airplanes; certificated in any category.

Unsafe Condition

(d) This AD was prompted by fatigue tests and analysis that identified areas of the fuselage where fatigue cracks can occur. We are issuing this AD to prevent loss of the structural integrity of the fuselage, which could result in rapid depressurization of the airplane.

Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

Inspections

(f) Do initial and repetitive inspections for fuselage cracks using applicable internal and external detailed inspection methods, and repair all cracks, by doing all the actions specified in the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2500, dated December 21, 2004, except as required by paragraph (g) of this AD. Do the initial and repetitive inspections at the times specified in paragraph 1.E. of the service bulletin, except as required by paragraph (h) of this AD. Repair any crack before further flight after detection.

Exceptions to Service Bulletin Procedures

(g) If any crack is found during any inspection required by this AD, and the bulletin specifies to contact Boeing for appropriate action: Before further flight, repair the crack using a method approved in accordance with the procedures specified in paragraph
(i) of this AD.

(h) Where the service bulletin specifies a compliance time after the issuance of the service bulletin, this AD requires compliance within the specified compliance time after the effective date of this AD.

AMOCs

(i)(1) The Manager, Seattle ACO, has the authority to approve AMOCs for this AD, if requested in accordance with the procedures found in 14 CFR 39.19.

(2) Accomplishment of the inspections specified in this AD is considered an AMOC for the applicable requirements of paragraphs (c) and (d) of AD 2004-07-22 under the following conditions:

(i) The inspections specified in this AD must be done within the compliance times specified in AD 2004-07-22. The initial inspection specified in this AD must be done at the times specified in paragraph (d) of AD 2004-07-22, and the inspections specified in this AD must be repeated within the intervals specified in paragraph (f) of this AD.

(ii) The AMOC applies only to the areas of Supplemental Structural Inspection Document for Model 747 Airplanes, Document D6-35022, Revision G, dated December 2000, that are specified in Boeing Alert Service Bulletin 747-53A2500, dated December 21, 2004.

(3) An AMOC that provides an acceptable level of safety may be used for any repair required by this AD, if it is approved by an Authorized Representative for the Boeing Delegation Option Authorization Organization who has been authorized by the Manager, Seattle ACO, to make those findings. For a repair method to be approved, the repair must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(4) Before using any AMOC approved in accordance with § 39.19 on any airplane to which the AMOC applies, notify the appropriate principal inspector in the FAA Flight Standards Certificate Holding District Office.

Material Incorporated by Reference

(j) You must use Boeing Alert Service Bulletin 747-53A2500, dated December 21, 2004, to perform the actions that are required by this AD, unless the AD specifies otherwise. The Director of the Federal Register approved the incorporation by reference of this document in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207, for a copy of this service information. You may review copies at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street SW., Room PL-401, Nassif Building, Washington, DC; on the Internet at *http://dms.dot.gov*; or at the National Archives and Records Administration (NARA). For information on the availability of this material at the NARA, call (202) 741-6030, or go to *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html*.

Issued in Renton, Washington, on February 16, 2006.
Michael Zielinski,
Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.
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